Amendments to the Claims:

The following listing of claims replaces all prior listings of the claims in the application:

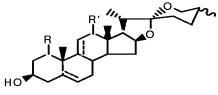
Claim 1 (Currently amended): A process for ~~clean technology of~~ producing 16-dehydropregnenolone and its analogs[,] comprising the steps of ~~that is, the pure or the crude~~

dissolving a pseudo steroidal sapogenin[,] derived from degradation of a steroidal sapogenin[,] ~~dissolved~~ in an organic solvent,

adding hydrogen peroxide, and optionally a metal catalyst and an acid, to the pseudo steroidal sapogenin dissolved in the organic solvent and reacting at 0-80°C ~~reacts with hydrogen peroxide~~ to form a mixture ~~for 0.5-24h at 0-80°C with/without metal compound and acid as catalyst, wherein the molar ratio of pseudo-steroidal sapogenin, hydrogen peroxide, metal catalyst and acid is 1:1.0-4.0:0.001-1:0-1, of which 1:1.5-2.5:0.005-0.02:0 is preferred~~, and

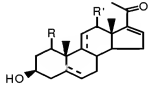
adding a ~~the~~ base ~~is added~~ to the mixture and keeping the mixture at 0-100°C or in reflux for 0.5 to 2 hours ~~and then the mixture is kept at 0-100°C or in reflux for 0.5-2 hour~~ to give 16-dehydropregnenolone ~~Dehydropregnenolone~~ or its analog, ~~accompanied with the other product 4R(or S)-methyl-5-hydroxy-pentate, which is converted to 4R(or S)-methyl-δ-pentyl-lactone after acidification and extraction from the water layer.~~

wherein the ~~The mentioned~~ steroidal sapogenin has a formula of ~~is of the structure~~:



in which R ~~or R'~~ is H or OH; R' is H or OH; C-5(6) ~~and/or C-9(11)~~ is C-C or C=C; C-9(11) is C-C or C=C; [,] C-25*R* or C-25*S*[,]; ~~and~~ C-5 is 5α-H or 5β-H when C-5(6) is C-C[,];

wherein ~~The structure of~~ the ~~mentioned~~ 16-dehydropregnenolone and its analogs has a formula of ~~can be outlined below~~:



in which R ~~or R'~~ is H or OH; R' is H or OH; C-5(6) ~~and/or C-9(11)~~ is C-C or C=C; C-9(11) is C-C or C=C; [,] ~~and~~ C-5 is 5α-H or 5β-H when C-5(6) is C-C[,];

wherein a molar ratio of the pseudo steroidal sapogenin, hydrogen peroxide, the metal catalyst, and the acid is 1:(1.0-4.0):(0.001-1):(0-1);

wherein the ~~The mentioned~~ metal catalyst is selected from the group consisting of ~~include:~~ tungstic oxide, tungstate, vanadic acid, vanadate, vanadyl acetylacetonate, molybdic anhydride, molybdate, phosphomolybdate, heteropolyacid, $Na_3[P(W_{12}O_{40})]$, and $(NH_4)_3[P(Mo_{12}O_{40})]\cdot 6H_2O$ ~~heteropolyate~~[,];

wherein the ~~The mentioned~~ acid is a ~~include~~ carboxylic acid, a sulfonic acid, or ~~and~~ an inorganic acid[,]; ~~where the carboxylic acid is preferable to be acetic acid, formic acid, propionic acid, butyric acid, benzoic acid, phthalic acid and isophthalic acid, the sulfonic acid is preferable to be benzenesulfonic acid and p-toluene sulphonic acid, and the inorganic acid is preferable to be sulfuric acid, phosphoric acid and phosphorous acid.~~

wherein the ~~The mentioned~~ organic solvent is selected from the group consisting of

~~include~~ dihalogen methane, trihalogen methane, dichloroethane, ethanol, butanol, t-butanol, dimethyl sulphoxide, N,N-dimethylformamide, acetone, butanone, cyclohexanone, acetonitrile, ethyl acetate, and acetic acid[.];

wherein the ~~The mentioned~~ base is a hydroxide, a ~~include: hydroxid,~~ carbonate, or a ~~and~~ bicarbonate~~, preferably to be sodium hydroxide, potassium hydroxide, lithium hydroxide, cesium hydroxide, sodium carbonate, potassium carbonate, lithium carbonate, cesium carbonate, sodium bicarbonate and potassium bicarbonate~~.

Claim 2 (Currently amended): ~~A~~ The process as defined in claim 1, wherein the steroidal sapogenin is diosgenin, tigogenin, sarsasapogenin, hecogenin, or rockogenin ~~the other natural steroidal sapogenin or the analogs modified from natural steroidal sapogenin~~.

Claim 3 (Currently amended): ~~A~~ The process as defined in claim 1, wherein the molar ratio of the pseudo steroidal sapogenin, hydrogen peroxide, the metal catalyst, and the acid is ~~1:1.0-4.0:0.001-1:0-1, of which~~ 1:(1.5-2.5):(0.005-0.02):0 ~~is preferred~~.

Claim 4 (Currently amended): ~~A~~ The process as defined in claim 1, further comprising the steps of ~~wherein 16-Dehydropregnenolone or its analog is obtained as precipitate after water was added to the reaction mixture and the water layer is acidified and extracted with organic solvent~~

adding water to the mixture to precipitate and obtain 16-dehydropregnenolone or its

analogs, and

acidifying the water layer and extracting the acidified water layer with an organic solvent to obtain ~~to give~~ 4R(or S)-methyl-δ-pentyl lactone.

Claim 5 (New): The process as defined in claim 1, wherein time for reacting the pseudo steroidal sapogenin with hydrogen peroxide, the acid, and optionally the metal catalyst is 0.5 to 24 hours.

Claim 6 (New): The process as defined in claim 1, wherein the acid is a carboxylic acid that is selected from the group consisting of acetic acid, formic acid, propionic acid, butyric acid, benzoic acid, phthalic acid, and isophthalic acid.

Claim 7 (New): The process as defined in claim 1, wherein the acid is either benzenesulfonic acid or p-toluene sulphonic acid.

Claim 8 (New): The process as defined in claim 1, wherein the acid is an inorganic acid that is selected from the group consisting of sulfuric acid, phosphoric acid, and phosphorous acid.

Claim 9 (New): The process as defined in claim 1, wherein the base is a hydroxide that is selected from the group consisting of sodium hydroxide, potassium hydroxide, lithium

hydroxide, and cesium hydroxide.

Claim 10 (New): The process as defined in claim 1, wherein the base is a carbonate that is selected from the group consisting of sodium carbonate, potassium carbonate, lithium carbonate, and cesium carbonate.

Claim 11 (New): The process as defined in claim 1, wherein the base is either sodium bicarbonate or potassium bicarbonate.

Claim 12 (New): The process as defined in claim 1, wherein the pseudo steroidal sapogenin is purified or crude product made from degradation of the steroidal sapogenin.